

=> d his

(FILE 'HOME' ENTERED AT 07:39:58 ON 12 JAN 2007)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE, AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGMONOG2, DRUGU, EMBAL, EMBASE, ...' ENTERED AT 07:40:13 ON 12 JAN 2007
SEA AMYLASE

142 FILE ADISCTI
45 FILE ADISINSIGHT
366 FILE ADISNEWS
5422 FILE AGRICOLA
669 FILE ANABSTR
235 FILE ANTE
59 FILE AQUALINE
959 FILE AQUASCI
2334 FILE BIOENG
29804 FILE BIOSIS
6227 FILE BIOTECHABS
6227 FILE BIOTECHDS
4194 FILE BIOTECHNO
11223 FILE CABA
48251 FILE CAPLUS
1682 FILE CEABA-VTB
118 FILE CIN
533 FILE CONFSCI
244 FILE CROPB
291 FILE CROPU
1237 FILE DDFB
1610 FILE DDFU
24179 FILE DGENE
878 FILE DISSABS
1237 FILE DRUGB
157 FILE DRUGMONOG2
2475 FILE DRUGU
79 FILE EMBAL
17027 FILE EMBASE
5245 FILE ESBIODASE
6 FILE FOMAD
145 FILE FOREGE
3804 FILE FROSTI
8415 FILE FSTA
19336 FILE GENBANK
64 FILE HEALSAFE
4016 FILE IFIPAT
16 FILE IMSDRUGNEWS
217 FILE IMSPRODUCT
21 FILE IMSRESEARCH
6771 FILE JICST-EPLUS
23 FILE KOSMET
4824 FILE LIFESCI
22531 FILE MEDLINE
167 FILE NTIS
2 FILE NUTRACEUT
263 FILE OCEAN
11834 FILE PASCAL
639 FILE PCTGEN
30 FILE PHAR
7 FILE PHARMAML
125 FILE PHIN
766 FILE PROMT

91 FILE PROUSDDR
 31 FILE RDISCLOSURE
 19225 FILE SCISEARCH
 10258 FILE TOXCENTER
 21314 FILE USPATFULL
 2484 FILE USPAT2
 58 FILE VETB
 247 FILE VETU
 72 FILE WATER
 8563 FILE WPIDS
 60 FILE WPIFV
 8563 FILE WPINDEX

L1 QUE AMYLASE

FILE 'CAPLUS, BIOSIS, MEDLINE, SCISEARCH, EMBASE, PASCAL, CABA,
 TOXCENTER, WPIDS, FSTA, JICST-EPLUS, BIOTECHDS, AGRICOLA, ESBIODBASE,
 LIFESCI, BIOTECHNO! ENTERED AT 07:41:25 ON 12 JAN 2007

L2 9502 S L1 AND (MUTANT OR VARIANT)
 L3 0 S L2 AND (ASP128, GLY140, SER144,)
 L4 4 S L2 AND (POSITION 128)
 L5 1 DUP REM L4 (3 DUPLICATES REMOVED)
 L6 0 S L2 AND (POSITION 140, POSITION 144, POSITION 168, POSITION 181
 L7 0 S L2 AND (AMINO ACID 140)
 L8 0 S L2 AND (ASPL28, GLYL40, SER144, ARG168, ASNL8L, GLU207, PHE2

=> d 15 ibib ab

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2000:842252 CAPLUS
DOCUMENT NUMBER: 134:14747
TITLE: Subtilase enzymes of the I-S1 and I-S2 subgroups
having at least one additional amino acid residue
between **positions** 128 and 129 with
improved wash performance
INVENTOR(S): Vilbour, Andersen Kim; Mikkelsen, Frank F.; Kamp,
Hansen Peter; Norregaard-Madsen, Mads
PATENT ASSIGNEE(S): Novo Nordisk A/S, Den.
SOURCE: PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 20
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000071690	A1	20001130	WO 2000-DK241	20000510
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
EP 1183342	A1	20020306	EP 2000-925092	20000510
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			

PRIORITY APPLN. INFO.: DK 1999-712 A 19990520
WO 2000-DK241 W 20000510

AB Subtilase enzymes of the I-S1 and I-S2 sub-groups are provided having an addnl. amino acid residue in **position** 128 of the active site loop (c) region from positions 125 to 132. Specifically, Savinase (Bacillus lentus subtilisin 309) **variants** are provided having at least one amino acid residue inserted in between **positions** 128 and 129 (numbering based on subtilisin BPN'). Site-specific mutagenic primers are used to insert the desired codons at the desired position(s) of the wild-type gene, and the **mutant** genes are used to transform Escherichia coli or Bacillus subtilis for the fermentation and purification of **variant** subtilisins. These **variant** subtilases exhibit improved wash performance in a detergent in comparison to its parent enzyme. Although this finding was done in subtilisin 309, it is predicted that it will be possible to produce or isolate similar advantageous subtilases or subtilase **variants**. The invention further relates to genes coding for the expression of said enzymes when inserted into a suitable host cell or organism, host cells transformed therewith and capable of expressing said enzyme **variants**, and methods for producing the novel enzymes.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 12 and (position 140, position 144, position 168, position 181, position 207, position 272, position 375, position 434, position 466)

12 FILES SEARCHED...

L6 0 L2 AND (POSITION 140, POSITION 144, POSITION 168, POSITION 181, POSITION 207, POSITION 272, POSITION 375, POSITION 434, POSITION 466)

=> s l2 and (amino acid 140)

1 FILES SEARCHED...

12 FILES SEARCHED...

L7 0 L2 AND (AMINO ACID 140)

=> s l2 and (Aspl28, Glyl40, Ser144, Arg168, Asnl8l, Glu207, Phe272, Ser375,
Trp434, Glu466)

L8 0 L2 AND (ASPL28, GLYL40, SER144, ARG168, ASNL8L, GLU207, PHE272,
SER375, TRP434, GLU466)

Refine Search

Search Results -

Term	Documents
ASPL28	0
ASPL28S	0
GLYL40	0
GLYL40S	0
SER144	3
SER144S	0
ARG168	11
ARG168S	0
ASNL8L	0
ASNL8LS	0
GLU207	4
(ASPL28, GLYL40, SER144, ARG168, ASNL8L, GLU207, PHE272, SER375, TRP434, GLU466).PGPB,USPT,USOC,EPAB,JPAB,DWPI.	0

There are more results than shown above. [Click here to view the entire set.](#)

Database:

US Pre-Grant Publication Full-Text Database
US Patents Full-Text Database
US OCR Full-Text Database
EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search:

L2 and (position 128, position 140,
position 144, position 168, position
181, position 207, position 272,



Refine Search

Recall Text

Clear

Interrupt

Search History

DATE: Friday, January 12, 2007 [Purge Queries](#) [Printable Copy](#) [Create Case](#)

Set
Name
side by

Query

Hit
Count

Set
Name

side

result set

DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ

<u>L5</u>	Aspl28, Glyl40, Ser144, Arg168, Asnl8l, Glu207, Phe272, Ser375, Trp434, Glu466	0	<u>L5</u>
<u>L4</u>	L3 and (Aspl28, Glyl40, Ser144, Arg168, Asnl8l, Glu207, Phe272, Ser375, Trp434 Glu466)	0	<u>L4</u>
<u>L3</u>	L2 same (variant or mutant)	4873	<u>L3</u>
<u>L2</u>	amylase	32511	<u>L2</u>
<u>L1</u>	amylase	32511	<u>L1</u>

END OF SEARCH HISTORY

Refine Search

Search Results -

Term	Documents
AMYLASE	27945
AMYLASES	8961
SER375	3
SER375S	0
(SER375 SAME AMYLASE).PGPB,USPT,USOC,EPAB,JPAB,DWPI.	0
(AMYLASE SAME SER375).PGPB,USPT,USOC,EPAB,JPAB,DWPI.	0

Database:

US Pre-Grant Publication Full-Text Database
 US Patents Full-Text Database
 US OCR Full-Text Database
 EPO Abstracts Database
 JPO Abstracts Database
 Derwent World Patents Index
 IBM Technical Disclosure Bulletins

Search:

L20

Refine Search

Recall Text

Clear

Interrupt

Search History

DATE: Friday, January 12, 2007

[Purge Queries](#)[Printable Copy](#)[Create Case](#)

Set
Name
 side by
 side

Query

Hit
Count

Set
Name
 result set

DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ

L20 amylase same Ser375

0 L20

L19 amylase same Trp434

0 L19

L18 amylase same Glu466

0 L18

L17 (amylase same Glu466).clm.

0 L17

L16 (amylase same Trp434).clm.

0 L16

<u>L15</u>	(amylase same Ser375).clm.	0	<u>L15</u>
<u>L14</u>	(amylase same Phe272).clm.	0	<u>L14</u>
<u>L13</u>	(amylase same Glu207).clm.	1	<u>L13</u>
<u>L12</u>	(amylase same Asn 181).clm.	0	<u>L12</u>
<u>L11</u>	(amylase and Arg 168).clm.	0	<u>L11</u>
<u>L10</u>	(amylase and Ser 144).clm.	0	<u>L10</u>
<u>L9</u>	(amylase and Gly140).clm.	0	<u>L9</u>
<u>L8</u>	(amylase and Asp 128).clm.	0	<u>L8</u>
<u>L7</u>	L2 and (position 128)	251	<u>L7</u>
<u>L6</u>	L2 and (position 144)	341	<u>L6</u>
<u>L5</u>	Asp128, Gly140, Ser144, Arg168, Asn181, Glu207, Phe272, Ser375, Trp434, Glu466	0	<u>L5</u>
<u>L4</u>	L3 and (Asp128, Gly140, Ser144, Arg168, Asn181, Glu207, Phe272, Ser375, Trp434 Glu466)	0	<u>L4</u>
<u>L3</u>	L2 same (variant or mutant)	4873	<u>L3</u>
<u>L2</u>	amylase	32511	<u>L2</u>
<u>L1</u>	amylase	32511	<u>L1</u>

END OF SEARCH HISTORY